

CLAIMS

1. A battery storing device comprising:

5 a battery storing section that can store a battery inside and has a
heat retaining function of retaining heat of the battery that is stored inside
using heat insulating material; and

a heat retention releasing mechanism for releasing the heat
retaining function.

10 2. A battery storing device according to claim 1,

wherein the heat insulating material is vacuum heat insulating
material.

3. A battery storing device according to claim 1 or claim 2, further
15 comprising an independent discharge circuit that is directly coupled to the
battery and can operate discharge independently from the charge/discharge
operation of a main circuit.

20 4. A battery storing device according to claim 3,

wherein the independent discharge circuit has a heating resistor.

5. A battery storing device according to claim 3 or claim 4,

wherein the independent discharge circuit has at least a PTC
device.

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6. A battery storing device according to one of claim 3 to claim 5, further
comprising:

a temperature detector for detecting temperature inside the battery storing section; and

a circuit control section for controlling the independent discharge circuit based on the temperature detected by the temperature detector.

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7. A battery storing device according to one of claim 1 to claim 6,
wherein the heat retention releasing mechanism opens and closes an opening for making air flow between the inside and outside of the battery storing section.

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8. A battery storing device according to one of claim 1 to claim 6,
wherein the heat retention releasing mechanism comprises:
a heat conductor forming a heat conduction route for conducting heat between the inside and outside of the battery storing section;
15 and
a mechanism for opening and closing the heat conduction route.

9. A battery storing device according to one of claim 1 to claim 8, further
20 comprising:

a temperature detector for detecting temperature inside the battery storing section; and

a heat retention release control section for controlling the heat retention releasing mechanism based on the temperature detected by the
25 temperature detector.

10. A battery storing device according to one of claim 1 to claim 9,

wherein the battery is a lithium secondary battery.

11. A power supply device comprising:

a battery storing device according to one of claim 1 to claim 10; and

5 a battery stored in the battery storing device.

12. An electric vehicle comprising:

a power supply device according to claim 11; and

an electrically driven mechanism for being driven by power supply

10 from the power supply device.